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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/701,587	11/30/2000	Hans Peter Rath	49091	5855

26474 7590 09/06/2002

KEIL & WEINKAUF
1350 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER

LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 09/06/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/701,587

Applicant(s)

RATH, HANS PETER

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-9, in Paper No. 6 is acknowledged. The traversal is on the ground(s) that Group II, Claim 10, "is a product of the novel process of claims 1-9, the polyisobutene of claim 10 *a priori* must be novel". This is not found persuasive because in a product by process claim, while the process defines the product, the product is not limited to the process, i.e. the product can be prepared by a known process and still reads on the instant Claim 10.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, line 3, the type of average molecular weight is not specified, thus, renders the average molecular weight of polyisobutene indefinite. Applicant needs to indicate the type of the molecular weight. The average molecular weight seems to be number average molecular weight because only number average molecular weight is disclosed in the working examples.

4. Claims 1, 2, and 4-9 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

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Evidence that claims 1, 2, and 4-9 fail(s) to correspond in scope with that which applicant(s) regard as the invention can be found on Page 7, lines 22-38 in the Specification, applicant has described the secondary alkyl of ether as “-CH-(R)₂”, and this statement indicates that the invention is different from what is defined in the claim(s) because the instant claims are not limited to an ether with a secondary carbon connected to the ether oxygen. The secondary alkyl group of the instant claims does not require a secondary carbon connected to the ether oxygen as long as there is a secondary carbon in the alkyl group. For example, an ether of formula $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_2(\text{CH}_3)_2$ reads on the instant claimed ether.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rath (US 5,408,018).

The instant claims are directed to polymerization process for preparation of a polyisobutene having a terminal vinylidene group content of more than 80 mol% in the presence of a complex comprising boron trifluoride, a primary or secondary alcohol, and an alkyl ether wherein the alkyl groups are primary or secondary alkyl groups with the proviso that at least one of the alkyl groups is a secondary alkyl group.

Rath's Examples 6 and 7 teach polymerization processes for preparation of a polyisobutene having a terminal vinylidene group content of more than 87 mol% in the presence of a complex comprising boron trifluoride, 2-butanol, and 2-butyl tert-butyl ether.

Although Rath does not use an alkyl ether wherein the alkyl groups contain no tertiary alkyl groups, Roth expressly teaches that methyl isooctyl ether and isooctyl ether can be used in the trifluoride/secondary alcohol/dialkyl ether complex (col. 8, lines 37-42).

Therefore, it would have been obvious to a skilled artisan at the time the invention was made to employ Rath's teaching to prepared a trifluoride/secondary alcohol/dialkyl ether complex wherein the dialkyl ether is methyl isooctyl ether or isooctyl ether because such is expressly taught in the reference and all of the embodiments of the reference are expected to work and in the absence of any showing of criticality and unexpected results.

7. The references cited in the International Search Report have been considered. However, some of them are not considered as the most pertinent art regarding the instant claims. Therefore, they are not used in the art rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434. The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.

CAIXIA LU
PATENT EXAMINER



September 4, 2002